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NHMRC Early Career Fellow
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Acknowledgement of Country
Skin Sores and Scabies

They can cause bad sickness
Public health importance of Impetigo

**Breaks in the skin**

- **SCABIES**, insect bites, minor trauma, tinea, head lice, other skin conditions

**Impetigo – GAS & S. aureus**

- **Complicated local skin infections & hospitalisation**
  - Cellulitis, abscess, Necrotising fasciitis

- **Invasive GAS**
  - 10% case fatality rate

- **Invasive S. aureus**
  - 5% case fatality rate

- **(GAS) Glomerulonephritis**
  - 5% case fatality rate per year

- **(GAS) Rheumatic fever**
  - 2-5% case fatality rate per year

Adapted from Engelman et al PLoS NTD 2013
See, Treat, Prevent – skin sores & scabies

A cluster randomised trial with stepped wedge design
STOP Aims

To implement a streamlined skin care program incorporating training & treatment, with comprehensive evaluation, demonstrating a reduction in skin infections and improvements in overall health

1. Reduce skin sores in 5-9 yo by 50%
2. Improve overall health of Aboriginal children
3. Monitor antimicrobial resistance
4. Economic evaluation

- Measurement: school based skin surveillance of children three times / year
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**Legend:**
- **Yellow:** Pre-trial when communities will receive standard care through the clinic and school-based surveillance programs will establish baseline prevalence.
- **Blue:** The whole community transitions to the intervention.
- **Light Blue:** The period outside the school year when higher mobility occurs with individuals having a mix of standard care outside the community or trial within the community.
- **Green:** The trial will continue into the follow-up phase for all communities and will conclude with the final school surveillance at the end of 2020.
- **Post-trial measurements will occur.**
SToP Trial: Timeline

2017/8
• CONSULTATION: communities, clinics, schools, leadership, ethics & governance, SASA, agreements

2018/2020
• StoP Trial: School based surveillance, health promotion, environmental health, Standardised Rx in the clinic

2021/2022
• MAINTENANCE: Business as usual with enhanced infrastructure for skin infection prevention
See: How common?

- **Parasite**: Scabies
  - 1 in 10 Aboriginal kids will have scabies

- **Parasite**: Crusted Scabies
  - 1 in 750 Aboriginal people may have crusted scabies

- **Bacterial Skin Sores or Impetigo**
  - 1 in 2 Aboriginal kids will have skin sores
  - Kidney disease
  - Rheumatic heart disease
  - Bone and joint
  - Blood infections

- **Head Lice**
- **Fungal Infection**
See: Sores
See: Scabies
See: Crusted Scabies

Lokuge et al MJA 2014
1. Skin sores “impetigo”

- Bacterial skin infection, very common in children
- Skin sores & scabies often occur at the same time
- Must treat as can lead to serious health problems like Rheumatic heart and Kidney disease

Look for:

- Yellow-brown crusted sores
- Sores with pus in them
- Scabies might also be present at the same time
Treat: better options
Impetigo treatment
Short-course oral co-trimoxazole versus intramuscular benzathine benzylpenicillin for impetigo in a highly endemic region: an open-label, randomised, controlled, non-inferiority trial

Day 7 results

Asha C Bowen, Steven Y CTong, Ross M Andrews, Irene M O’Meara, Malcolm I McDonald, Mark D Chatfield, Bart J Currie, Jonathan R Carapetis
Scabies Treatment

**LYCLEAR**
Scabies Cream

**Stromectol**
3 mg
Ivermectin Tablets

STOP
TELETHON KIDS INSTITUTE
Treat: crusted scabies care

- Crusted scabies as driver of scabies burden
- Chronic disease model of care
  - See
  - Treat
  - Prevent
10. Maintaining Healthy Skin

**Clean**
- Bathe/wash children every day
- Clean hands with soap & water
- Wash towels, clothes & bedding & dry in the sun

**Check**
- If skin is not improving after a day or two, speak to your health clinic

**Care**
- Moisturise dry, cracked skin
- Cover skin sores from dirt or being scratched
- Apply Bush Medicines

**Home**
- Make an Environmental Health referral to help check house

Happy, healthy skin
4. What skin condition is shown here?

A) Skin sores
B) Scabies
C) Crusted scabies
D) Boil
4. What skin condition is shown here?

B) Scabies
SToP Trial: see, treat, prevent
Healthy Skin Programme

Global

- Antimicrobial resistance
- Microbiology of skin infections

National

- Kimberley situational analysis
- Systematic review
- National Healthy Skin Guideline

Local/State

- SCAB-Heal

Basic Research

- Antibiotic resistance
- Microbiology and Molecular epidemiology
- Burden of Disease Normalisation
- Treatment

Translational Research

Policy and advocacy

Technical service delivery

- Health-worker Training
- Environmental Health
- Health Promotion
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James Cook Uni
Prof Louis Schofield

Kimberley
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KAMS- Vicki O’Donnell, Kim Isaacs
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National Healthy Skin Guideline: for the Prevention, Treatment and Public Health Control of Impetigo, Scabies, Crusted Scabies and Tinea for Indigenous Populations and Communities in Australia – 1st edition